PATENT CLAIMS

1. A method of processing sheet-like products comprising the steps of

conveying the products in a predetermined original order and in a continuous or interrupted imbricated stream, or in a non-imbricated stream, at an initial conveying speed,

combining a plurality of the conveyed products which define a section of adjacent products, to form an intermediate stack,

conveying the intermediate stack once it has been formed, and/or while it is being formed, such that a gap is formed in relation to subsequent products as seen in the conveying direction, and

further processing the products in the intermediate stack in a reverse order with respect to the predetermined original order.

2. The method of Claim 1 wherein the intermediate stack, once formed, is conveyed further at a conveying speed which is selected in dependence on the number of products in the stack, on the initial conveying speed, and on the length of the intermediate stack measured in the conveying direction.

3. The method of Claim 1 wherein the combining step includes braking the first product in the section of products relative to the trailing products in the section so that the trailing products in the section end up located on or beneath the first product.

4. The method of Claim 3 wherein the step of conveying the products includes conveying the products

in an inverse imbricated formation wherein each product rests at least in part on the trailing product, and wherein all of the products in the section are conveyed against a stop to brake the products and so that the leading edges of the products are aligned.

5. The method of Claim 4 wherein the step of conveying the products further includes positioning the products on a first conveying arrangement which defines a path of travel, and wherein the stop is selectively introduced into the path of travel, and so that upon removal of the stop the intermediate stack is conveyed further by the first conveying arrangement to a second conveying arrangement.

6. The method of Claim 5 wherein the stop is controlled such that it is introduced into the path of travel for a predetermined time or until it brakes a predetermined number of products, and then removed.

7. The method of Claim 1 wherein the step of further processing the products includes displacing each product in the intermediate stack so as to form an imbricated stream, or a non-imbricated stream, wherein the order of the products is reversed from said predetermined original order.

8. The method of Claim 7 wherein the step of conveying the products includes conveying the products in an inverse imbricated formation wherein each product rests at least in part on the trailing product, and wherein the step of displacing each product in the intermediate stack includes conveying the intermediate stack upon a bearing surface and against an obstruction

which forms a gap with the bearing surface through which only a predetermined number of products can pass.

9. The method of Claim 1 wherein the intermediate stack, once formed, is conveyed further so that the stack overlaps a previously formed intermediate stack.

10. The method of Claim 1 wherein the step of conveying the products includes, prior to the combining step, turning the stream as a whole, so that the initially upwardly oriented sides of the products are oriented downward, and vice-versa.

11. The method of Claim 1 wherein the section of adjacent products which is formed into the intermediate stack comprises between two and ten products.

12. The method of Claim 1 wherein the step of conveying the products includes conveying the products in an inverse imbricated formation wherein each product rests at least in part on the trailing product, wherein the combining step includes building the intermediate stack by adding products from beneath, and wherein the further processing step includes reducing the intermediate stack by removing products from beneath.

13. The method of Claim 1 wherein the step of conveying the products includes conveying the products in a normal imbricated formation, wherein each product rests at least in part on the preceding product, wherein the combining step includes building the intermediate stack by adding products from above, and wherein the further processing step includes reducing the intermediate stack by removing products from above.

14. A method of processing sheet-like products comprising the steps of

conveying the products in a predetermined original order and in a continuous or interrupted imbricated stream at an initial conveying speed,

combining a plurality of the conveyed products which define a section of adjacent products, to form an intermediate stack such that the sides of the products which are directed toward one another in the imbricated formation are also directed toward one another in the intermediate stack,

conveying the intermediate stack once it has been formed, and/or while it is being formed, such that a gap is formed in relation to subsequent products as seen in the conveying direction, and

further processing the products in the intermediate stack in a reverse order with respect to the predetermined original order.

15. An apparatus for processing sheet-like products comprising

a conveyor for conveying the products in a predetermined original order and in a continuous or interrupted imbricated stream, or in a non-imbricated stream, at an initial conveying speed, along a path of travel,

a stack forming arrangement positioned along the path of travel for combining a plurality of the conveyed products which define a section of adjacent products being conveyed by said conveyor, to form an intermediate stack,

a feed arrangement by means of which the intermediate stack is conveyed away from the stack

forming arrangement and to a further processing station, with said further processing station having provision for processing the products in the intermediate stack in a reverse order with respect to the predetermined original order.

16. The apparatus of Claim 15 wherein the stack forming arrangement comprises a stop which is mounted for selective movement into and out of the path of travel and so as to brake the initial product of the section of products when moved into the path of travel, and with the stop being either at a fixed location along the path of travel or mounted for movement away from the conveyor at a speed lower than said initial conveying speed.

17. The apparatus of Claim 15 wherein the stack forming arrangement comprises at least one pushing element which is moved at a higher speed than the initial conveying speed and by means of which the products in the section are pushed together from behind to form the intermediate stack.

18. The apparatus of Claim 15 wherein the feed arrangement comprises a conveying arrangement which is capable of receiving the intermediate stack from said conveyor and conveying it further.

19. The apparatus of Claim 15 wherein the further processing station comprises a stack reducing arrangement.

20. The apparatus of Claim 15 wherein the further processing station comprises pushing means mounted for

movement relative to the intermediate stack such that each product in the intermediate stack is displaced relative to the adjacent products located in the intermediate stack.

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